

## **Abstract**

The invention relates to an apparatus for determining a distance profile comprising a light transmitter for transmitting pulse-like light signals in the direction of a monitored space, a light receiver for receiving light signals reflected/remitted from the monitored space and an evaluation unit for determining distance values in dependence on the light transit time between the transmission and reception of the light signals, with the light transmitter being designed for the simultaneous transmission of a plurality of light signals in the direction of a plurality of reflection/ remission points disposed in the monitored space and spaced apart from one another, and with the light receiver including a plurality of photodiodes for the reception of light signals reflected/remitted by the reflection/remission points.